

AMENDMENTS TO PARAGRAPHS 0013, 0019, 0025 and 0027 OF THE SPECIFICATION

[0013] According to the present invention for achieving the objects, there is provided a pneumatic servo valve including a hollow main body with a supply port, a discharge port and an exhaust port; a sleeve which is contained in a hollow portion of the main body and has slots communicating with the respective ports, and a chamber therein; a spool axially slidably installed within the chamber to control the flow of a fluid into the respective ports according to the position thereof; a torque motor installed at one side of the main body to control the position of the spool in response to electrical signals; and a spool position detecting means for compensating positional errors by receiving the feedback position of the spool, comprising a spool holding means including a ball nut 60 which is engaged, via a ball, with a helical groove formed on a connection rod of the spool connected to the torque motor and rotates when the spool moves linearly, and an ~~electronic~~ electromagnetic brake for holding the ball nut not to rotate when the spool is stopped.

[0019] Therefore, a rotating body, i.e. ball nut 60, which keeps linear movement of the spool 30 and simultaneously rotates in response to the linear movement of the spool is rotatably installed in the main body 10. Further, an ~~electronic~~ electromagnetic brake 70 is also installed in the main body to firmly hold the ball nut 60 so that the position of the spool can be fixed when the spool 30 is stopped. In addition, the rotary encoder 50 is installed to compensate the positional errors by receiving the feedback position of the spool through detection of the number of revolutions of the ball nut 60 that rotates in

proportion to the linear movement distance of the spool 30.

[0025] As soon as the spool 30 reaches a correct position, the ~~electronic~~ electromagnetic brake 70 is operated to hold the ball nut 60. Accordingly, the spool 30 coupled with the ball nut through the ball is also fixed. Therefore, there is no problem of the displacement of the spool due to the flow force of the fluid while the ~~electronic~~ electromagnetic brake 70 holds the ball but 60.

[0027] According to the present invention described above, the spool is firmly held by the ~~electronic~~ electromagnetic brake only when the spool is in a stationary state, thereby preventing abnormal displacement of the spool due to flow force of a fluid. Therefore, the stability of a valve system can be ensured.